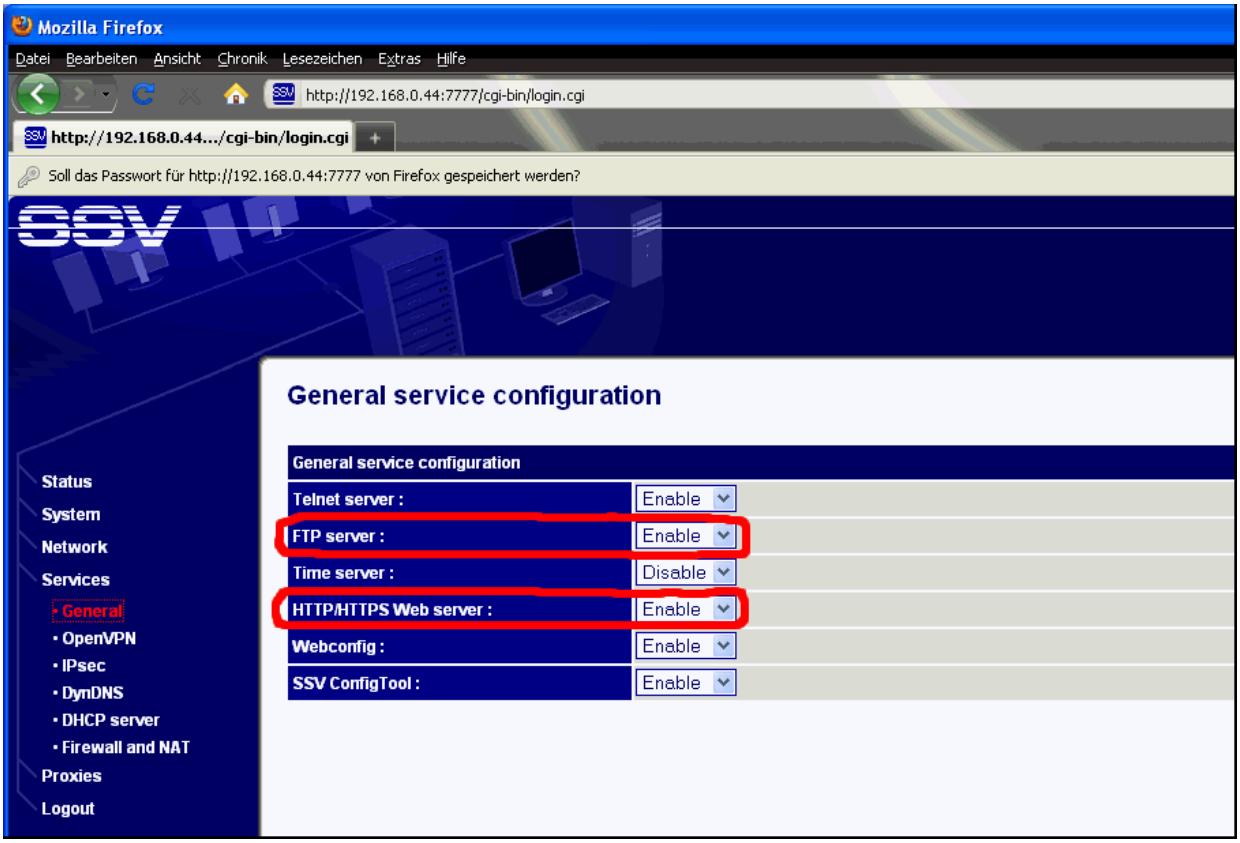
How to write your first CGI program for the IGW/922 user web server

The software of the VPN Remote Access Gateway IGW/922 offers two different embedded web servers. One is available over TCP port 7777. This so called *configuration web server* works in HTTP mode only and is reserved for IGW/922 web-based configuration interface. Please see also the document *Web ConfigTool – User manual*. The other web server is accessible over TCP port 80 in HTTP mode or TCP port 443 in HTTPS mode. This so called *user web server* can be used for user applications.

This document describes how to write a simple CGI shell script program, download the program file to the user web server default CGI file space, and how to access this CGI application program over a web browser.

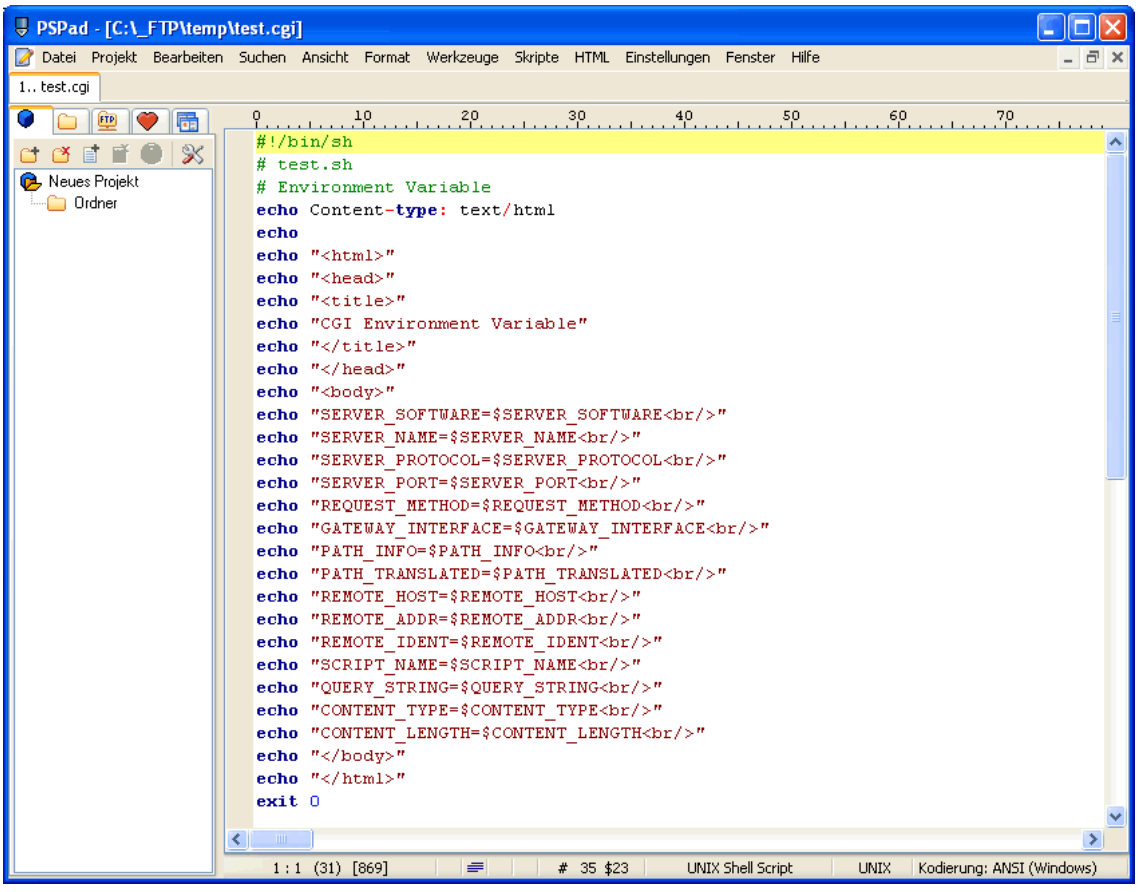
- **1. Step:** Use the IGW/922 web-based configuration interface and make sure that the FTP server is running and that the HTTP/HTTPS web server is also enabled. This server is the *user web server*.



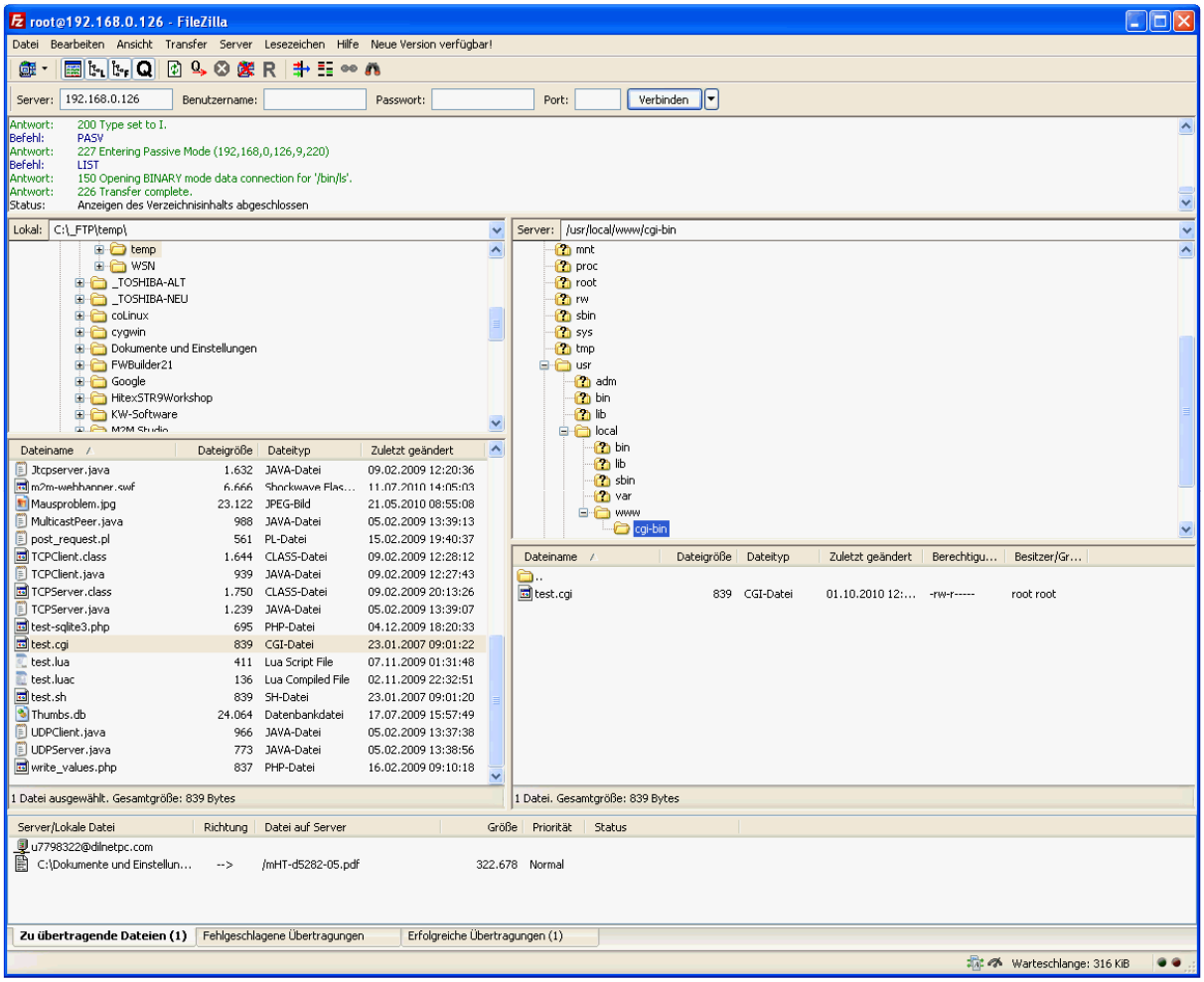
- **2. Step**: Run a editor with HTML and shell script support on your PC (see mHTigw922-2.pdf *How to download and install a HTML editor* for more details) and enter the following code lines:

```
#!/bin/sh
# test.sh
# Environment Variable
echo Content-type: text/html
```

```
echo
echo "<html>"
echo "<head>"
echo "<title>"
echo "CGI Environment Variable"
echo "</title>"
echo "</head>"
echo "<body>"
echo "SERVER_SOFTWARE=$SERVER_SOFTWARE<br/>"
echo "SERVER_NAME=$SERVER_NAME<br/>"
echo "SERVER_PROTOCOL=$SERVER_PROTOCOL<br/>"
echo "SERVER_PORT=$SERVER_PORT<br/>"
echo "REQUEST_METHOD=$REQUEST_METHOD<br/>"
echo "GATEWAY_INTERFACE=$GATEWAY_INTERFACE<br/>"
echo "PATH_INFO=$PATH_INFO<br/>"
echo "PATH_TRANSLATED=$PATH_TRANSLATED<br/>"
echo "REMOTE_HOST=$REMOTE_HOST<br/>"
echo "REMOTE_ADDR=$REMOTE_ADDR<br/>"
echo "REMOTE_IDENT=$REMOTE_IDENT<br/>"
echo "SCRIPT_NAME=$SCRIPT_NAME<br/>"
echo "QUERY_STRING=$QUERY_STRING<br/>"
echo "CONTENT_TYPE=$CONTENT_TYPE<br/>"
echo "CONTENT_LENGTH=$CONTENT_LENGTH<br/>"
echo "</body>"
echo "</html>"
exit 0
```

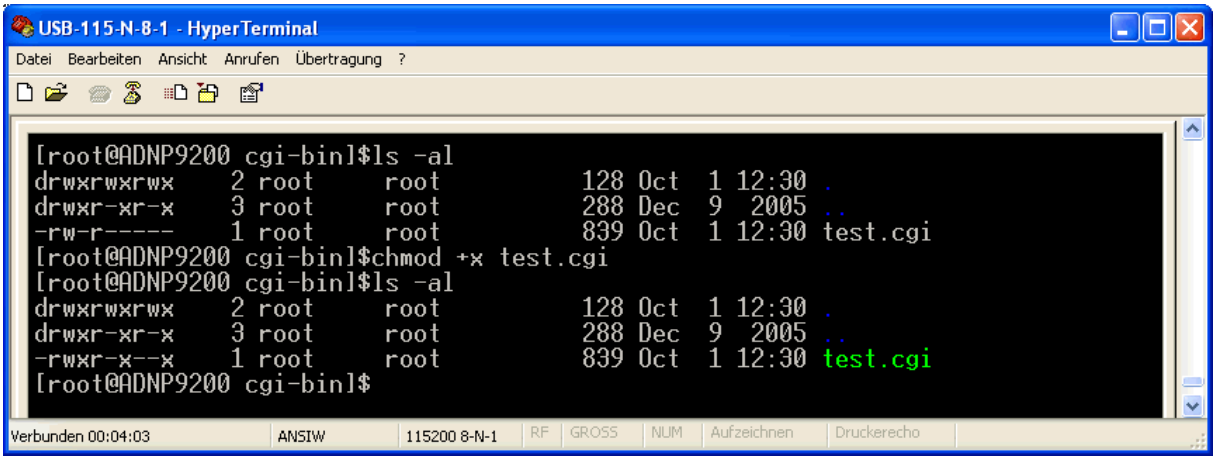


- **3. Step:** Save the code lines to a file with the name *test.cgi* in a Unix file format. Then transfer this file from your PC to the IGW/922 directory ***/usr/local/www/cgi-bin*** within the IGW/922 file system. Please use a FTP session for the file transfer. The default IGW/922 FTP user name is ***root***. The default password for this user is also ***root***.


root@192.168.0.126 - FileZilla
Datei Bearbeiten Ansicht Transfer Server Lesezeichen Hilfe Neue Version verfügbar!
Server: 192.168.0.126 Benutzername: Passwort: Port: Verbinden
Antwort: 200 Type set to I.
Befehl: PASV
Antwort: 227 Entering Passive Mode (192,168,0,126,9,220)
Befehl: LIST
Antwort: 150 Opening BINARY mode data connection for '/bin/ls'.
Antwort: 226 Transfer complete.
Status: Anzeigen des Verzeichnisinhalts abgeschlossen
Lokal: C:_FTP\temp\
Server: /usr/local/www/cgi-bin
Dateiname Dateigröße Dateityp Zuletzt geändert
Jtcpserver.java 1.632 JAVA-Datei 09.02.2009 12:20:36
m2m-webbanner.swf 6.666 Shockwave Flas... 11.07.2010 14:05:03
Mausproblem.jpg 23.122 JPEG-Bild 21.05.2010 08:55:08
MulticastPeer.java 988 JAVA-Datei 05.02.2009 13:39:13
post_request.pl 561 PL-Datei 15.02.2009 19:40:37
TCPClient.class 1.644 CLASS-Datei 09.02.2009 12:28:12
TCPClient.java 939 JAVA-Datei 09.02.2009 12:27:43
TCPServer.class 1.750 CLASS-Datei 09.02.2009 20:13:26
TCPServer.java 1.239 JAVA-Datei 05.02.2009 13:39:07
test-sqlite3.php 695 PHP-Datei 04.12.2009 18:20:33
test.cgi 839 CGI-Datei 23.01.2007 09:01:22
test.lua 411 Lua Script File 07.11.2009 01:31:48
test.luac 136 Lua Compiled File 02.11.2009 22:32:51
test.sh 839 SH-Datei 23.01.2007 09:01:20
Thumbs.db 24.064 Datenbankdatei 17.07.2009 15:57:49
UDPClient.java 966 JAVA-Datei 05.02.2009 13:37:38
UDPServer.java 773 JAVA-Datei 05.02.2009 13:38:56
write_values.php 837 PHP-Datei 16.02.2009 09:10:18
1 Datei ausgewählt. Gesamtgröße: 839 Bytes
Dateiname Dateigröße Dateityp Zuletzt geändert Berechtigu... Besitzer/Gr...
test.cgi 839 CGI-Datei 01.10.2010 12:... -rw-r----- root root
1 Datei. Gesamtgröße: 839 Bytes
Server/Lokale Datei Richtung Datei auf Server Größe Priorität Status
u7798322@dilnetpc.com
C:\Dokumente und Einstellun... --> /mHT-d5282-05.pdf 322.678 Normal
Zu übertragende Dateien (1) Fehlgeschlagene Übertragungen Erfolgreiche Übertragungen (1)
Warteschlange: 316 KiB

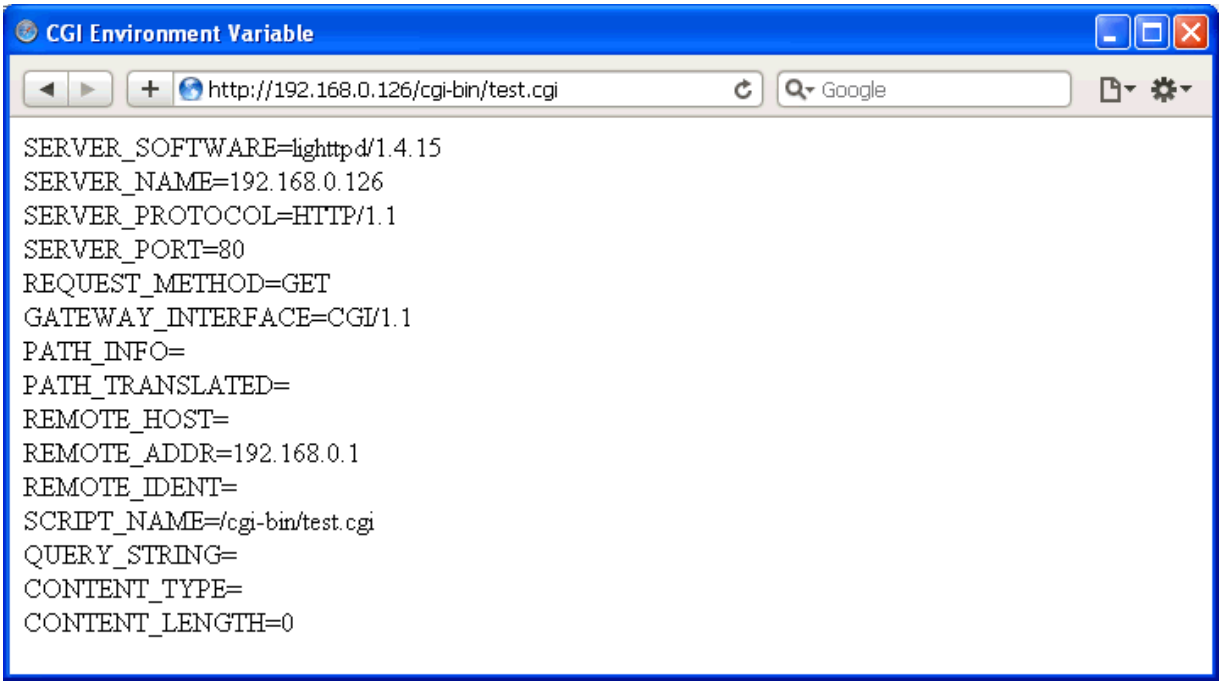
- **4. Step:** Run a Telnet or serial console session with administrator rights and change the *test.cgi* file attributes to executable:

```
chmod +x test.cgi
```


USB-115-N-8-1 - HyperTerminal
Datei Bearbeiten Ansicht Anrufen Übertragung ?
[root@ADNP9200 cgi-bin]$ls -al
drwxrwxrwx 2 root root 128 Oct 1 12:30 .
drwxr-xr-x 3 root root 288 Dec 9 2005 ..
-rw-r----- 1 root root 839 Oct 1 12:30 test.cgi
[root@ADNP9200 cgi-bin]$chmod +x test.cgi
[root@ADNP9200 cgi-bin]$ls -al
drwxrwxrwx 2 root root 128 Oct 1 12:30 .
drwxr-xr-x 3 root root 288 Dec 9 2005 ..
-rwxr-x--x 1 root root 839 Oct 1 12:30 test.cgi
[root@ADNP9200 cgi-bin]$
Verbunden 00:04:03 ANSIW 115200 8-N-1 RF GROSS NUM Aufzeichnen Druckerecho

- **5. Step:** Run your web browser and access the new CGI program over the IGW/922 user web server. Use the following URL:

  `http://192.168.0.126/cgi-bin/test.cgi`



Please note: ***/usr/local/www/cgi-bin*** is a RAM disk directory. After the next reboot the file *test.cgi* is removed from this directory. Please see also mHTigw922-5.pdf: *How to use non-volatile storage space for your HTML pages.*

That's all.